Some study of (α,β)-fuzzy ideals in ordered semigroups

Abstract :

Algebraic structures especially an ordered semigroups play a prominent role in mathematics with wide ranging applications in many disciplines such as control engineering, computer arithmetics, coding theory, sequential machines and formal languages. A theory of fuzzy sets in terms of fuzzy points on ordered semigroups can be developed. In this paper, we generalize the concept of (α,β)-fuzzy left (right) ideal of an ordered semigroup S and introduce a new sort of fuzzy left (right) ideals called (∈,∈ Vqk)-fuzzy left (right) ideals, where k ∈ [0, 1). In particular, we describe the relationships among ordinary fuzzy ideals and (∈,∈ Vqk)- fuzzy ideals of an ordered semigroup S. Finally, we characterize regular ordered semigroups in terms of (∈,∈ Vqk)-fuzzy left (resp. right) ideals